PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Bruce L. Davis

Application No.: **09/504,239**

Filed: February 15, 2000

For: DATA TRANSMISSION BY WATERMARK PROXY

Examiner: J. Patel

Date: April 8, 2003

Response Under 37 CFR § 1.116

Expedited Procedure

Art Unit 2625

CERTIFICATE OF MAILING

I hereby certify that this paper and the documents referred to as being attached or enclosed herewith are being deposited with the United States Postal Service on April 8, 2003, as First Class Mail in an envelope addressed to: BOX AF, ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231.

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APPEAL BRIEF

BOX AF
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Sir:

Applicant respectfully requests the Board of Patent Appeals and Interferences (hereafter "Board") to reverse the outstanding final rejection for each of the pending claims.

This Appeal Brief is in furtherance of the Notice of Appeal filed January 8, 2003. Please charge the fee required under 37 CFR 1.17(f) or any deficiency to deposit account 50-1071 (please see the accompanying transmittal letter).

REAL PARTY IN INTEREST

The real party in interest is Digimarc Corporation, by an assignment from the inventors recorded at Reel 011146, Frames 0084-0086, on August 21, 2000.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 3-15, 17-19, 21 and 24-32 are pending in the present application. Each of these claims stand finally rejected.

STATUS OF AMENDMENTS

All earlier-filed amendments have been entered.

SUMMARY OF THE INVENTION

The present invention relates to data transmission, and more particularly relates to the use of digital watermarks as proxies for data in transmission. (See, for example, page 1, lines 15-16).

Digital watermark technology has numerous applications beyond its traditional role of simply communicating copyright information. (See, for example, page 1, lines 20-21).

In one implementation, a media object is sensed at a first location and delivered at a second, remote location. In other implementations, a delivered object is of a higher quality than the sensed media object. In still other implementations, larger media objects requiring higher bandwidth for effective transmission are delivered notwithstanding low bandwidth bottlenecks between first and second locations. Such advantages are achieved by employing digital watermark data as proxies for media objects. (See, for example, page 13, lines 4-10).

In accordance with another implementation of the invention (see, e.g., Fig. 3), a bandwidth bottleneck (see, e.g., Fig. 1) imposed by a narrowband channel 16 (through which device 12 is coupled) is obviated by employing a watermark as a proxy for content. In such an

arrangement, content data captured by device 12 is decoded, and a watermark payload hidden in the content is extracted. (This can be performed by hardware or software available in device 12, e.g., a cell phone microprocessor, a desktop computer, dedicated decoder circuitry, etc. Alternatively, this decoding can be done remotely from device 12, but before device 14, e.g., by a smart router in the intervening network. On receipt of the payload, device 14 queries the server 20, and obtains the content (e.g., an image and/or additional content or functionality), corresponding to that watermark. The content is obtained over the high-speed channels between the server 20 and the second device 14; while the low bandwidth channel 16 linking the first device 12 conveys the low bandwidth watermark payload information. (See page 4, lines 3-17).

Claim 3 relates to a method including sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device (see, for example, page 3, lines 6-8 and page 4, lines 5-6). Object identification data is decoded from the electronic form, wherein the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object (see, for example, page 3, lines 14-15 and page 4, lines 5-11). By reference to the object identification data, identifying a set of data stored in a repository at a remote site, the set of data comprising at least one media content file (see, for example, page 3, lines 17-18 and page 4, lines 13-14 and lines 24-25). The set of data is sent from the repository (see, for example, page 3, lines 18-19 and page 4, lines 15-16), wherein the media content file represents the same media object as originally sensed, but represented with higher fidelity or accuracy (see, for example, page 3, lines 12-13, lines 18-21; see also, e.g., FIG. 2).

Claim 5 recites a method including: sensing a media object in human-perceptible form, and converting same to an electronic form (see, for example, page 3, lines 6-8 and page 4, lines 5-6), said sensing and converting being performed by a first device (see, for example, FIG. 1 -- First Device 12); decoding object identification data from the electronic form, wherein the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object (see, for example, page 3, lines 14-15 and page 4, lines 5-11 and lines 24-25); by reference to said object identification data, identifying a set of data stored in a repository

at a remote site, the set of data comprising at least one media content file (see, for example, page 3, lines 17-18 and page 4, lines 13-14 and lines 24-26); and sending said set of data from said repository, wherein the decoding is also performed by said first device (see, for example, page 3, lines 18-19 and page 4, lines 15-16), and the method includes sending at least a part of the watermark data from the first device (see, for example, page 3, lines 13-15 and page 4, lines 12-13 and lines 24-25).

Claim 8 recites a method comprising: sensing a media object in human-perceptible form, and converting same to an electronic form (see, for example, page 3, lines 6-8 and page 4, lines 5-6), said sensing and converting being performed by a first device (see, for example, FIG. 1 -- First Device 12); decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object (see, for example, page 4, lines 5-9), wherein the decoding is performed by the first device (see, for example, page 4, lines 5-9); sending at least a part of the watermark data from the first device to a data repository (see, for example, page 4, lines 24-25), the data repository being remote from the first device (see, e.g., FIG. 1); by reference to said object identification data, identifying a set of data stored in the data repository, the set of data comprising at least one media content file (see, e.g., FIG. 4 and page 4, lines 24-26); and sending a destination identifier to the data repository from the first device (see, e.g., page 4, lines 25-26; see also, e.g., FIG. 4), the data repository thereafter sending the set of data in accordance with said destination identifier (see, e.g., FIG. 4; see also, e.g., page 4, lines 24-26).

Claim 9 recites a method comprising: sensing a media object in human-perceptible form, and converting same to an electronic form (see, for example, page 3, lines 6-8 and page 4, lines 5-6), said sensing and converting being performed by a first device (see, for example, FIG. 1 -- First Device 12); decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object (see, for example, page 4, lines 5-9), wherein the decoding is performed by said first device (see, for example, page 4, lines 5-9); sending at least a part of the watermark data from the first device to a second device (see, e.g., page 4, lines 3-5 and lines 11-14), the

second device being remote from the first device (see, e.g., FIG. 1); from the second device accessing a data repository by use of the at least a part of the watermark data (see, e.g., FIG. 3), wherein the second device is distinct from the data repository (see, e.g., FIG. 1); by reference to said object identification data, identifying a set of data stored in the data repository, the set of data comprising at least one media content file (see, e.g., FIG. 3; see also, e.g., page 4, lines 13-15); sending said set of data from said data repository; and receiving at the second device, the set of data from the data repository (see, e.g., FIG. 3; see also, e.g., page 4, lines 13-16).

Claim 11 recites a method comprising: sensing a media object in human-perceptible form, and converting same to an electronic form (see, for example, page 3, lines 6-8 and page 4, lines 5-6), said sensing and converting being performed by a first device (see, for example, FIG. 1 -- First Device 12); decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object (see, for example, page 4, lines 5-9), wherein the decoding is performed by said first device (see, for example, page 4, lines 5-9); sending at least a part of the watermark data from the first device to a second device (see, e.g., page 4, lines 11-13), the second device being remote from the first device and being distinct from a data repository at a remote site (see, e.g., FIG. 1); by reference to said object identification data, identifying a set of data stored in the data repository at the remote site (see, e.g., page 4, lines 13-16), the set of data comprising at least one media content file; and sending said set of data from said data repository (see, e.g., page 4, lines 13-16).

Claim 13 recites a method comprising: sensing a media object in human-perceptible form, and converting same to an electronic form (see, for example, page 3, lines 6-8 and page 4, lines 5-6), said sensing and converting being performed by a first device (see, for example, FIG. 1 -- First Device 12); sending the electronic form of the media object to a second device remote from the first device (see, for example, page 3, lines 13-14); decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object (see, e.g., page 3, lines 14-15), the decoding being performed by the second device (see, e.g., page 3, lines 14-15); using at least part

of said watermark data to access a data repository at a remote site (see, e.g., page 3, lines 15-19); by reference to said object identification data, identifying a set of data stored in the data repository at the remote site, the set of data comprising at least one media content file (see, e.g., page 3, lines 15-18; see also, e.g., FIG. 2); sending said set of data from said data repository; and receiving, at the second device, the set of data from said data repository (see, e.g., page 3, lines 18-19; see also, e.g., FIG. 2).

Claim 19 recites a method of invoking delivery of a set of data from a repository to a destination (see, e.g., FIGS. 3 and 4) that includes: sensing a media object in human-perceptible form, and converting same to electronic form (see, for example, page 3, lines 6-8 and page 4, lines 5-6), said sensing and converting being performed by a first device (see, for example, FIG. 1 -- First Device 12); decoding object identification data from the electronic form, wherein the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object (see, e.g., page 4, lines 5-9); and transmitting at least some of said decoded object identification data, without transmitting said electronic form, so as to invoke delivery of the set of data from the repository to the destination (see, e.g., FIGS. 3 and 4; see also, e.g., page 4, lines 11-16 and lines 24-26).

ISSUE

- Whether the Office failed to establish a *prima facie* case of obviousness in rejecting claims 3-15, 17-19, 21 and 24-32 over U.S. Patent No. 5,502,576 (Ramsey) in view of U.S. Patent No. 5,606,609 (Houser) and further in view of U.S. Patent No. 5,687,236 (Moskowitz) because (a) the references – collectively – fail to detail all of the elements claimed, and/or (b) there is no teaching or suggestion in the art that would have led an artisan to modify and combine the references as proposed?

GROUPING OF CLAIMS

Claims 3-15, 17-19 and 24-32 are independently patentable.

Claims 19 and 21 are grouped together and stand and fall together.

ARGUMENT

The Office has failed to establish a *prima facie* case of obviousness for the claims. The final rejection fails to address the claims separately, without analysis or discussion for each individual claim and for the particular features recited in each of the claims. Of the many claims presented on appeal, the Office has only addressed claims 3-5 individually and separately. Yet the cited references fail to teach or suggest the combinations are recited in claim 3-5. The remaining claims were not individually considered – despite reciting separate and distinct combinations.

For example, the dependent claims are not individually considered in the action, but are rather lumped into a single three-sentence discussion (see the Final Office Action at page 4, line 17 – page 5, line 6).

The final rejection for each of the pending claims is improper and should be reversed.

Prosecution History Highlights

1. Applicant filed the subject application on February 15, 2000.

2. The Office on November 27, 2001, variously rejects the then pending claims over Ramsey, Houser and Moskowitz.

3. In a March 18, 2002 personal interview, the Office stated that Claims 3, 8, 9 and 13 in independent form appeared allowable over the cited references (including Ramsay, Houser and Moskowitz).

4. Applicant submitted an Amendment on April 25, 2002, presenting claims 3, 8, 9 and 13 as discussed during the above-mentioned interview, and argued the patentability of claims 11 and 19 along with the dependent claims.

5. Applicant submitted a Supplemental Amendment on June 21, 2002, in which claim 5 was presented in independent form and claim 19 was amended without prejudice to include the

features of now cancelled claim 20.

6. On September 12, 2002, the Office finally rejected the now pending claims (referred to below as the "Final Office Action") – apparently adhering the original rejection presented on November 27, 2001.

7. Applicant filed a Notice of Appeal on January 8, 2003.

8. Applicant filed this present Appeal Brief on April 8, 2003.

Claim 3

Independent claim 3 reads as follows:

3. *A method comprising:*

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, wherein the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object;

by reference to said object identification data, identifying a set of data stored in a repository at a remote site, the set of data comprising at least one media content file; and

sending said set of data from said repository, wherein the media content file represents the same media object as originally sensed, but represented with higher fidelity or accuracy.

Consider the combination of features as recited in claim 3.

A first device senses a media object and converts the same to an electronic form. Object identification data is decoded from the electronic form, *wherein the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object.* By reference to the *object identification data*, a set of data stored in a repository at a remote site is identified, the set of data includes at least one media content file. The set of data is sent from the repository, *wherein the media content file represents the same media object as*

originally sensed, but represented with higher fidelity or accuracy.

To be clear, applicant disagrees with the characterization that Ramsey teaches or suggests that *the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object.* (See Final Office Action at page 3, line 9 which states: "by reference to the object identification data (***including watermark data***), . . ." (emphasis added)). Indeed, Ramsey is not understood to teach or suggest such features. The Final Office Action seems to recognize Ramsay's deficiencies at page 3, lines 18-20.

The Office relies on Ramsay to show the features of sensing and converting (citing Ramsay at Col. 4, lines 29-45, Col. 16, lines 29-35 and Col. 25, lines 35-45), and the features of *the media content file representing the same media object as originally sensed, but represented with higher fidelity or accuracy* (citing Ramsay at Col. 12, lines 1-27).

This juxtaposition seems to be an out-of-context reading of Ramsay. Reliance on these passages fails to appreciate the relationship between the originally sensed media object with the media content file. The relation to the originally sensed media object should be considered because claim 3 explains the fidelity or accuracy of the media content file in relation to the originally sensed media object. (Ramsay at Col. 12, lines 1-27 does not help in this regard, since it does not relate an originally sensed document (as defined in claim 3) with the media content file (as defined in claim 3).).

Ramsay is cited at Col. 4, lines 29-45, and at Col. 16, lines 29-35 for sensing a media object in human-perceptible form, and at Col. 25, lines 35-45 for converting the same to an electronic form. Ramsay at the cited Col. 4 deals with presentation and transportation of content, not sensing and converting. So, applicant guesses that the Office intended to rely on Col. 16 for the sensing and converting features. (Col. 25 adds little here since it merely mentions the word "scanner."). The cited Ramsay Col. 16 passage deals with scanning a tangible document and then

storing the corresponding electronic image as frames in a conventional videotape format – and, if forced to follow the reasoning of the Final Office Action, this procedure reflects how Ramsay would suggest to populate a data repository with media content files (e.g., image frames). So, if the scan converters mentioned at Col. 16 are employed, there would necessarily be some noise or degradation introduced to the scanned image – resulting in storing a lower fidelity version of the originally sensed object. Or, at the very best, the stored, scanned image would be the same fidelity -- not a higher fidelity or accuracy -- as the originally sensed image. Ramsay's media content file (i.e., the stored, scanned image) would, therefore, not *represent the same media object as originally sensed, but represented with higher fidelity or accuracy*.

In contrast, consider an example in the specification in which a destination device receives a better media content file (e.g., an image) than that sensed from a sensing device. (See, e.g., page 3, lines 12-13). A watermark provides information by which a copy of the image can be accessed from a server. (See, e.g., page 3, lines 15-17.) The image copy provided by the server can be higher resolution or pristine, e.g., the image copy has no artifacts from scanning at the sensing device as would be found in the sensed copy. (See, e.g., page 3, lines 19-20). (Of course, there are many other implementations and examples covered by claim 3. Also, it should be appreciated that the applicant has not intended to read into claim 3 the specific elements or words used in the above example or discussion of Ramsay. For example, claim 3 does not require storing a sensed image in a data repository. Rather, claim 3 should be defined by its recited combination of features.)

Ramsay fails to teach or suggest all the limitations of claim 3. Houser and Moskowitz are not cited for teaching that the media content file represents the same media object as originally sensed, but represented with higher fidelity or accuracy, in combination with the other features of claim 3. Nor do they so teach or suggest.

There is no motivation to combine the references as suggested in the Final Office Action. The motivation provided by the Final Office Action does not address the invention as claimed. For example, the Office Action discusses how it would be "obvious to one having ordinary skill in the art at the time the invention was made to use the step of encoding and decoding object identification data as taught by Moskowitz and Houser in the electronic document processing system of Ramsay because the system of Houser provides Ramsay with an electronic document verification system having a security information assembler that, responsive to a user's request assembles security information into a predetermined format." (See Final Office Action at page 4, lines 8-16, *emphasis added*).

Yet applicant in claim 3 is not claiming an electronic document verification system, nor assembling security information into a predetermined format.

The motivation for combining Ramsay with Houser and Moskowitz (not to mention any probability of success in doing so) has not been sufficiently established to prove a *prima facie* case of obviousness.

For at least the reasons stated above, the rejection of claim 3 should be reversed.

Claim 4

Claim 4 depends from claim 3 and reads as follows:

4. *The method of claim 3 in which:*

the media object comprises a graphic on a printed page; and

the sending comprises sending the set of data to a second device remote from the first device.

Applicant has carefully reviewed the cited Ramsay passage (Col. 5, line 57 – Col. 6, line 27) only to find a discussion regarding "electronic content" (see, e.g., Col. 5, line 57), and not a

media object comprising a graphic on a printed page. Ramsay clearly defines and segregates three different types of domains for documents: i) tangible (e.g., paper); ii) electronic image; and iii) electronic content. See Ramsay at Col. 2, lines 22-29. The cited passage deals with electronic content and not a graphic on a printed page.

The Office has not shown that Ramsay meets all of the claim 4 features.

Thus, the final rejection of claim 4 should be reversed.

Claim 18

Claim 18 depends from claim 3 and reads as follows:

18. *The method of claim 3 in which the media object comprises audio.*

There is no discussion or analysis of audio in the Final Office Action. And the Final Office Action seems to distinguish the primary reference, Ramsay, from audio by calling out a specific type of content – electronic documents. (See Final Office Action, page 4, lines 17-20).

Moskowitz discusses audio, but there is no discussion or analysis in the Final Office Action of how or why Moskowitz and Ramsay should be modified and then combined to yield the invention as claimed in claim 18.

The Office has not established a *prima facie* case of obviousness. And the final rejection of claim 18 should be reversed.

Claim 12

Claim 12 depends from claim 3 and reads as follows:

12. *The method of claim 3 in which the decoding is performed by a second device remote from the first device.*

The Final Office Action fails to address decoding being performed by a second device, which is remote from the first device, in combination with the features of claim 3.

These types of shortcomings are even further discussed with reference to claims 8 and 25 below. (Please note, it is not applicant's intent to read into claim 12 the features of claims 8 and 25. Rather, the below discussion is illustrative of the type of shortcomings in the Final Office Action.).

The rejection of claim 12 should be reversed.

Claim 17

Claim 17 depends from claim 3 and reads as follows:

17. *The method of claim 3 which includes sending the set of data from the repository to a second device after decoding the watermark data at a third device distinct from the first and second devices.*

The Final Office Action failed to address sending the set of data from the repository to a second device after decoding the watermark data at a third device distinct from the first and second devices.

These features are not mere design choices. But rather the recited claim features are presented to handle specific problems. (These types of shortcomings are even further discussed with reference to claims 8 and 25 below. Please note, it is not applicant's intent to read into claim 17 the features of claims 8 and 25. Rather, the below discussion is illustrative of the type of shortcomings in the Final Office Action.).

The Final Office Action failed to establish a *prima facie* case of obviousness with respect to claim 17. Thus, claim 17 should be allowed.

Claim 8

Independent claim 8 reads as follows:

8. *A method comprising:*

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object, wherein the decoding is performed by the first device;

sending at least a part of the watermark data from the first device to a data repository, the data repository being remote from the first device;

by reference to said object identification data, identifying a set of data stored in the data repository, the set of data comprising at least one media content file; and

sending a destination identifier to the data repository from the first device, the data repository thereafter sending the set of data in accordance with said destination identifier.

The Office failed to establish a *prima facie* case of obviousness with respect to claim 8.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all of the claim limitations. If an examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness. (See MPEP 2142 (emphasis added)).

The Final Office Action fails to even address each of the claimed features, let alone establishes that all of the claim limitation are taught or suggested by the references. For example, the Final Office Action fails to analyze or even discuss how the cited references teach or suggest at least *sending a destination identifier to the data repository from the first device, the data repository thereafter sending the set of data in accordance with said destination identifier*, in combination with the other features of claim 8.

(The Final Office Action states that "[a]s to the specific limitations of transmitting certain selected part of the object identification by selected group devices is merely design choice and routinely performed in a typical multimedia and internet system . . . including a selected portion of the data of a object . . . .". As will be appreciated by the Board, claim 8's forgotten features calls for a destination identifier, along with object identification data, in combination with the remaining features of claim 8. Such a combination was not even considered by the Office.).

Applicant points out that the patentability of the claim 8 (as with the other claims appealed herein) does not hinge on isolated elements thereof. Rather, the claims are believed patentable because, when viewed as a whole, they define combinations that are neither anticipated by, nor obvious over, the cited art.

Moreover, there is no suggestion in the art that would have led an artisan to (a) modify and supplement the teachings of Ramsay and Houser as needed to redress the shortcomings noted above, and (b) then combine the modified teachings in the manner necessary to yield the combination of claim 8. The statements to the contrary in the Final Office Action are not substantiated by the record.

Claim 24

Claim 24 depends from claim 8, and reads as follows:

24. *The method according to claim 8, wherein the destination identifier is sent with the*

at least a part of the watermark data.

Claim 24 is not specifically addressed in the Final Office Action. Nor was an analogous claim specifically analyzed.

As such, the Office has failed to establish that the cited art renders claim 24 unpatentable.

Claim 25

Claim 25 depends from claim 8, and reads as follows:

25. *The method according to claim 8, wherein the set of data is sent from the data repository to a second device, wherein the second device is remote from both the first device and the data repository.*

Applicant notes that the Final Office Action suggests that "[t]he claimed limitations of performing the recited steps at remote or local devices are merely various design preferences and are routinely performed in parallel, synchronously or asynchronously by a variety of document processing devices . . . .)". (See Final Office Action, page 4, line 21 – page 5, line 4.) Applicant is not sure if the Office intended to apply this argument to claim 25.

Moreover, applicant disagrees that the features of a *set of data is sent from the data repository to a second device, wherein the second device is remote from both the first device and the data repository*, in combination with the recited features of claim 8, are merely a design choice.

To the contrary, claim 25 addresses a particular set of problems. By way of example only, in the present specification beginning on page 2, line 25, we disclose that a first device (e.g., may be a cell phone or PC) is connected to a network with a relatively low bandwidth channel, whereas a second device (e.g., a computer) is coupled to the network with a relatively

high bandwidth channel. We may, therefore, send the set of data to the second device to leverage the advantages of a particular bandwidth connection. (Of course, there are may other examples and implementations that will fall within the scope of claim 25, and claim 25 is not limited to include the specific bandwidth channels mentioned in the above example.).

Applicant notes that reliance on so-called design preference (or design choice) is discouraged as a substitute for "factual evidence and sound obviousness reasoning." See, e.g., *Ex Parte* Thomas B. Lykens, Appeal No. 96-1555 (unpublished), page 7, (see posting at http://www.uspto.gov/web/offices/dcom/bpai/decisions/fd961555.pdf). The Office's position that many of Applicant's claims are merely design choices ignores the problems solved and the results achieved using the claimed methods. And, there is no suggestion to make the modifications as now claimed.

Thus, the rejection of claim 25 is improper.

Claim 9

Independent claim 9 reads as follows:

9. *A method comprising:*

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object, wherein the decoding is performed by said first device;

sending at least a part of the watermark data from the first device to a second device, the second device being remote from the first device;

from the second device, accessing a data repository by use of the at least a part of the watermark data, wherein the second device is distinct from the data repository;

by reference to said object identification data, identifying a set of data stored in the data

repository, the set of data comprising at least one media content file;

sending said set of data from said data repository; and

receiving at the second device, the set of data from the data repository.

The Final Office Action failed to discuss many of the claimed features as recited by claim 9. For example, claim 9 would *send at least a part of watermark data from a first device to a second device*, the second device *being remote from the first device; from the second device, accessing a data repository by use of the at least a part of the watermark data, wherein the second device is distinct from the data repository*; sending said set of data from said data repository; and *receiving at the second device, the set of data from the data repository*, in combination with the other recited features of claim 9.

Claim 9 provides an excellent example of using a watermark as a data proxy.

There is no discussion or analysis of at least claim 9's recited combination of features in the Final Office Action. The final rejection of claim 9 is, therefore, improper.

(Once again, Applicant is unsure whether the Final Office Action's statement of "[a]s to the specific limitations of transmitting certain selected part of the object identification by selected group devices is merely design choice and routinely performed in a typical multimedia and internet system . . . including a selected portion of the data of a object . . ." (see page 4, lines 1-5) is intended to apply to claim 9. Nevertheless, even if so intended, each of claim 9 limitations have not been considered and addressed by the Office, nor has there been any evidence supplied by the Office as to a motivation to make such alleged design choice modifications.).

Claim 10

Claim 10 depends from claim 9 and reads as follows:

10. *The method of claim 9 which includes transmitting capability data from the second device to the repository, the capability data indicating the type(s) of media acceptable to the second device, and sending from the repository to the second device one of said types of media corresponding to said watermark data.*

Claim 10 is not addressed in the Final Office Action. Nor was an analogous claim analyzed.

As such, the Office has failed to establish that the cited references render claim 10 unpatentable.

Moreover, the cited references are not understood to teach or suggest *transmitting capability data from the second device to the repository, the capability data indicating the type of media acceptable to the second device,* in combination with the remaining features of claims 9 and 10.

The rejection of claim 10 should be reversed.

Claim 11

Independent claim 11 reads as follows:

11. *A method comprising:*

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object, wherein the decoding is performed by said first device;

sending at least a part of the watermark data from the first device to a second device, the second device being remote from the first device and being distinct from a data repository at a remote site;

by reference to said object identification data, identifying a set of data stored in the data repository at the remote site, the set of data comprising at least one media content file; and

sending said set of data from said data repository.

The Final Office Action fails to address many of the claimed features recited in claim 11. For example, claim 11 contemplates a first device sensing a media object and converting the sensed media object to an electronic form. The first device decodes object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object. The first device sends at least some of the watermark data to a second device. The second device is remote from the first device and distinct from a data repository. A set of data stored in the data repository at the remote site is identified and is sent from the data repository.

Claim 11 solves a unique set of problems. Indeed, the plural-bit watermark data, in one example, can be used as a proxy for content such an image. The specification illustrates examples of how claim 11 may be beneficial in helping to obviate a bandwidth bottleneck imposed by a narrowband channel between a first device and a network (see, e.g., specification at page 4, lines 3-17). In this example, a second device may have a relatively high bandwidth channel, which can be advantageously exploited. (Of course there are may other examples and implementations that will fall within the scope of claim 11, and it will be appreciated that not all of the elements discussed at the cited passage on page 4 of the specification should be read into the scope of claim 11. Instead, claim 11 should be defined by its recited features.).

Any suggestion by the Office that the recited features of claim 11 include mere design choices ignores the unique problems addressed by the present invention, along with the

techniques used to solve such problems. Moreover, the Final Office Action has failed to provide individual analysis of claim 11's recited features, or any discussion of motivation to modify the references as claimed in claim 11.

Thus, the rejection of claim 11 is considered improper and should be reversed.

Claim 26

Claim 26 depends from claim 11 and reads as follows:

26. *The method of claim 11, wherein the set of data is sent from the repository to the second device.*

The Final Office Action fails to address the features of claim 26, in combination with claim 11.

The rejection of claim 26 should be reversed since the Office has failed to establish a *prima facie* case of obviousness.

Claim 13

Independent claim 13 reads as follows:

13. *A method comprising:*

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

sending the electronic form of the media object to a second device remote from the first device;

decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object, the decoding being performed by the second device;

using at least part of said watermark data to access a data repository at a remote site;

by reference to said object identification data, identifying a set of data stored in the data repository at the remote site, the set of data comprising at least one media content file;

sending said set of data from said data repository; and

receiving, at the second device, the set of data from said data repository.

"All words in a claim must be considered in judging the patentability of that claim against the prior art." (See MPEP 2143.03 *citing* In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)).

The Office has failed to consider all of claim 13's features (and words).

For example, claim 13 recites that a *first device* senses a media object and converts the same to an electronic form. The *electronic form* is sent to a *second device* that is remote from the *first device*. The *second device* decodes object identification data from *the electronic form*, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object. At least part of the watermark data is used to access a data repository at a remote site, and by reference to said object identification data, a set of data stored in the data repository at the remote site is identified. The second device receives the set of data from said data repository.

The Office did not consider all of the claim 13's features. For example, there is no discussion regarding sending an electronic form in combination with the remaining features of claim 13. As such, the Office has failed to establish a *prima facie* case of obviousness.

The final rejection of claim 13 should be reversed.

Claim 14

Claim 14 depends from claim 13 and read as follows:

14. *The method of claim 13 in which the data repository comprises the second device.*

The features of claim 13 where not discussed nor analyzed in the Final Office Action. The final rejection of claim 14 should be reversed.

Claim 15

Claim 15 depends from claim 13 and read as follows:

15. *The method of claim 13 in which the data repository is distinct from the second device.*

The recited features of claim 15 were not explicitly addressed in the Final Office Action. The Office has, therefore, failed to establish a *prima facie* case of obviousness.

The final rejection of claim 15 should be reversed.

Claim 19

Independent claim 19 reads as follows:

19. *A method of invoking delivery of a set of data from a repository to a destination that includes:*

sensing a media object in human-perceptible form, and converting same to electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, wherein the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object; and

transmitting at least some of said decoded object identification data, without transmitting

said electronic form, so as to invoke delivery of the set of data from the repository to the destination.

The Final Office Action fails to discuss or disclose how the references teach or suggest a method of *invoking* delivery of a set of data from a repository to a destination.

Initially, like so many of the previously discussed claims, there is no independently analysis or discussion of claim 19 in the Final Office Action. The Board will appreciate that claim 19 recites a separately patentable combination of features. The treatment of claim 19 as indistinguishable from claims 3 and 5 is improper. The specific features recited in claim 19 were not even considered in the Final Office Action.

For example, the Final Office Action fails to address at least transmitting at least some of the decoded object identification data, *without transmitting said electronic form, so as to invoke delivery of the set of data from the repository to the destination*, in combination with the remaining features of claim 19.

Moreover, there is no suggestion in the references that would have led an artisan to modify and combine Ramsay, Houser and Moskowitz in a manner needed to render obvious the invention as claimed in claim 19. The Final Office Action failed to even address the motivation for combining the references in the manner to render claim 19 obvious. Instead, the only showing of motivation was to discuss an electronic document verification system, and assembling security information into a predetermined format. But this motivation does not address the invention as recited in claim 19.

The final rejection of claim 19 should be reversed.

Claim 21

Claim 21 reads as follows:

21. *A computer storage medium having stored thereon instructions causing a computer to perform the method of claim 19.*

Claim 21 stands or falls with claim 19.

Claim 27

Claim 27 depends from claim 19 and recites the following:

27. *The method of claim 19, wherein the repository communicates with a network, and wherein the first device communicates with the network through a relatively low bandwidth channel, and the destination communicates with the network through a relatively high bandwidth channel, the destination being distinct from the first device.*

The Final Office Action fails to consider and discuss many features as recited in claim 27. For example, claim 27 specifies that the repository communicates with a network, and wherein the *first device* communicates with the network *through a relatively low bandwidth channel, and the destination* communicates with the network *through a relatively high bandwidth channel, the destination being distinct from the first device.* Nor do the applied references teach or suggest such features.

(Moreover, the recited features are not mere design choices, but define a particular problem solved by the inventive combination recited in claim 27. And the Final Office Action fails to provide any motivation or suggestion as to why the references should be modified to achieve applicant's claimed invention.).

The rejection is improper and should be reversed.

Claim 28

Claim 28 depends from claim 19 and reads as follows:

28. *The method of claim 19 wherein the decoded object identification data is transmitted from the first device to the repository with instructions to invoke delivery of the data set from the repository to the destination.*

The Final Office Action fails to discuss or analyze the feature of transmitting the decoded object identification data from the first device to the repository *with instructions to invoke delivery of the data set from the repository to the destination,* in combination with the remaining features of claim 28 and 19.

The Office has, therefore, failed to establish a *prima facie* case of obviousness for claim 28. And the final rejection of claim 28 should be reversed.

Claim 29

Claim 29 depends from claim 28 and reads as follows:

29. *The method of claim 28, wherein the instructions include an address of the destination.*

There is no analysis or discussion by the Office of how the references teach or suggest that the *instructions* of claim 28 *include an address of the destination.*

Thus, the Office has failed to establish that the references render claim 29 unpatentable.

Claim 30

Claim 30 depends from claim 19 and reads as follows:

30. *The method of claim 19 wherein the decoded object identification data is transmitted from the first device to the destination, and the destination communicates instructions to the*

repository to invoke delivery of the data set from the repository to the destination.

The Final Office Action fails to discuss or analyze how the references teach or suggest that the decoded object identification data is transmitted from the first device to the destination, *and the destination communicates instructions to the repository to invoke delivery of the data set from the repository to the destination.*

Thus, the rejection of claim 30 should be reversed.

Claim 31

Claim 31 depends from claim 30 and reads as follows:

31. *The method of claim 30, in which the decoding is performed by the destination.*

The Final Office Action fails to discuss or analyze the combination of claim 30 in which the decoding is performed by the destination.

The rejection of claim 31 should be reversed since the Office has failed to establish a *prima facie* case of obviousness.

Claim 32

Claim 32 depends from claim 32 as reads as follows:

32. *The method of claim 19 which includes sending the set of data from the repository to a second device after decoding the watermark data at a third device which is distinct from the first and second devices, wherein the destination comprises the second device.*

The Final Office Action fails to discuss or analyze the combination of claim 19 including *sending the set of data from the repository to a second device after decoding the watermark data at a third device which is distinct from the first and second devices, wherein the destination*

comprises the second device.

Thus, the rejection of claim 32 should be reversed.

Claim 5

Independent claim 5 reads as follows:

5. A method comprising:

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, wherein the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object;

by reference to said object identification data, identifying a set of data stored in a repository at a remote site, the set of data comprising at least one media content file; and

sending said set of data from said repository, wherein the decoding is also performed by said first device, and the method includes sending at least a part of the watermark data from the first device.

Consider the interrelationship of claim 5.

A first device senses a media object and converts the same to an electronic form. Object identification data is decoded from the electronic form, *wherein the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object*. By reference to the *object identification data*, a set of data stored in a repository at a remote site is identified, the set of data comprising at least one media content file. The set of data is sent from the repository, wherein the first device also performs the decoding, and the method includes sending at least a part of the watermark data from the first device.

To be clear, applicant disagrees with the characterization that Ramsey teaches or suggests that *the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object.* (See Final Office Action at page 3, line 9 which states: "by reference to the object identification data (***including watermark data***), . . ." (emphasis added)). Indeed, Ramsey is not understood to teach or suggest such features. The Final Office Action seems to recognize Ramsay's deficiencies at page 3, lines 18-20.

The Final Office Action seems to disregard the interrelationship between the original sensed object, the steganographically encoded data within the media object, and identifying the media content file with the steganographically encoded data. The combination of features as recited in claim 5 must be taken as a whole, and the references to not suggest such a combination.

This interrelationship was not appreciated by the Office, nor fully discussed an analyzed in the Final Office Action. Thus, the rejection with respect to claim 5 should be reversed.

Claim 6

Claim 6 depends from claim 5 and reads as follows:

6. *The method of claim 5 which includes sending at least a part of the watermark data to a second device, the second device being remote from the first device.*

There is no analysis or discussion by the Office of how the references teach or suggest that at least a part of the watermark data is sent to a second device, the second device being remote from the first device.

Thus, the Office has failed to establish that the references render claim 6 unpatentable.

Claim 7

Claim 7 depends from claim 6 and reads as follows:

7. *The method of claim 6 in which the data repository comprises the second device.*

There is no analysis or discussion by the Office of how the references teach or suggest that *data repository comprises the second device*, in combination with the features of claim 6 and 5.

Thus, the Office has failed to establish that the cited art renders claim 7 unpatentable.

CONCLUSION AND REQUEST FOR REVERSAL

The cited references collectively fail to disclose the combination of features as recited in the pending claims and/or the Office has not established a *prima facie* case of obviousness, particularly for claims 6-15, 17-19, 21 and 24-32, where the Office has not shown how the cited art teaches the specific elements of the claims, nor cited a specific motivation to combine the teachings of the references to produce the claimed combination of elements in these claims.

Applicant respectfully requests that the Board reverse the final rejection of the pending claims.

Respectfully submitted,

Date: April 8, 2003

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APPENDIX

PENDING CLAIMS

3. A method comprising:

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, wherein the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object;

by reference to said object identification data, identifying a set of data stored in a repository at a remote site, the set of data comprising at least one media content file; and

sending said set of data from said repository, wherein the media content file represents the same media object as originally sensed, but represented with higher fidelity or accuracy.

4. The method of claim 3 in which:

the media object comprises a graphic on a printed page; and

the sending comprises sending the set of data to a second device remote from the first device.

5. A method comprising:

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, wherein the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object;

by reference to said object identification data, identifying a set of data stored in a repository at a remote site, the set of data comprising at least one media content file; and

sending said set of data from said repository, wherein the decoding is also performed by

said first device, and the method includes sending at least a part of the watermark data from the first device.

6. The method of claim 5 which includes sending at least a part of the watermark data to a second device, the second device being remote from the first device.

7. The method of claim 6 in which the data repository comprises the second device.

8. A method comprising:

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object, wherein the decoding is performed by the first device;

sending at least a part of the watermark data from the first device to a data repository, the data repository being remote from the first device;

by reference to said object identification data, identifying a set of data stored in the data repository, the set of data comprising at least one media content file; and

sending a destination identifier to the data repository from the first device, the data repository thereafter sending the set of data in accordance with said destination identifier.

9. A method comprising:

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object, wherein the decoding is performed by said first device;

sending at least a part of the watermark data from the first device to a second device, the

second device being remote from the first device;

from the second device, accessing a data repository by use of the at least a part of the watermark data, wherein the second device is distinct from the data repository;

by reference to said object identification data, identifying a set of data stored in the data repository, the set of data comprising at least one media content file;

sending said set of data from said data repository; and

receiving at the second device, the set of data from the data repository.

10. The method of claim 9 which includes transmitting capability data from the second device to the repository, the capability data indicating the type(s) of media acceptable to the second device, and sending from the repository to the second device one of said types of media corresponding to said watermark data.

11. A method comprising:

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object, wherein the decoding is performed by said first device;

sending at least a part of the watermark data from the first device to a second device, the second device being remote from the first device and being distinct from a data repository at a remote site;

by reference to said object identification data, identifying a set of data stored in the data repository at the remote site, the set of data comprising at least one media content file; and

sending said set of data from said data repository.

12. The method of claim 3 in which the decoding is performed by a second device remote from the first device.

13. A method comprising:

sensing a media object in human-perceptible form, and converting same to an electronic form, said sensing and converting being performed by a first device;

sending the electronic form of the media object to a second device remote from the first device;

decoding object identification data from the electronic form, the object identification data comprising plural-bit watermark data steganographically encoded within the sensed media object, the decoding being performed by the second device;

using at least part of said watermark data to access a data repository at a remote site;

by reference to said object identification data, identifying a set of data stored in the data repository at the remote site, the set of data comprising at least one media content file;

sending said set of data from said data repository; and

receiving, at the second device, the set of data from said data repository.

14. The method of claim 13 in which the data repository comprises the second device.

15. The method of claim 13 in which the data repository is distinct from the second device.

17. The method of claim 3 which includes sending the set of data from the repository to a second device after decoding the watermark data at a third device distinct from the first and second devices.

18. The method of claim 3 in which the media object comprises audio.

19. A method of invoking delivery of a set of data from a repository to a destination that includes:

sensing a media object in human-perceptible form, and converting same to electronic form, said sensing and converting being performed by a first device;

decoding object identification data from the electronic form, wherein the object identification data comprises plural-bit watermark data steganographically encoded within the sensed media object; and

transmitting at least some of said decoded object identification data, without transmitting said electronic form, so as to invoke delivery of the set of data from the repository to the destination.

21. A computer storage medium having stored thereon instructions causing a computer to perform the method of claim 19.

24. The method according to claim 8, wherein the destination identifier is sent with the at least a part of the watermark data.

25. The method according to claim 8, wherein the set of data is sent from the data repository to a second device, wherein the second device is remote from both the first device and the data repository.

26. The method of claim 11, wherein the set of data is sent from the repository to the second device.

27. The method of claim 19, wherein the repository communicates with a network, and wherein the first device communicates with the network through a relatively low bandwidth channel, and the destination communicates with the network through a relatively high bandwidth channel, the destination being distinct from the first device.

28. The method of claim 19 wherein the decoded object identification data is transmitted from the first device to the repository with instructions to invoke delivery of the data set from the repository to the destination.

29. The method of claim 28, wherein the instructions include an address of the destination.

30. The method of claim 19 wherein the decoded object identification data is transmitted from the first device to the destination, and the destination communicates instructions to the repository to invoke delivery of the data set from the repository to the destination.

31. The method of claim 30, in which the decoding is performed by the destination.

32. The method of claim 19 which includes sending the set of data from the repository to a second device after decoding the watermark data at a third device which is distinct from the first and second devices, wherein the destination comprises the second device.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Bruce L. Davis

Application No.: **09/504,239**

Filed: February 15, 2000

For: DATA TRANSMISSION BY WATERMARK PROXY

Examiner: J. Patel

Date: April 8, 2003

Response Under 37 CFR § 1.116

Expedited Procedure

Art Unit 2625

CERTIFICATE OF MAILING

I hereby certify that this paper and the documents referred to as being attached or enclosed herewith are being deposited with the United States Postal Service on April 8, 2003, as First Class Mail in an envelope addressed to: BOX AF, ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231.

Steven W. Stewart
Attorney for Applicant

TRANSMITTAL LETTER

BOX AF
ASSISTANT COMMISSIONER FOR PATENTS:

Enclosed for filing in the above-captioned matter are the following:

☒ Appeal Brief (in Triplicate) (fee **$320.00**)

☒ Applicant petitions for a one-month extension of time from March 8, 2003 to April 8, 2003. If an additional extension of time is required, please consider this a petition therefore.

☒ Please charge **$430.00** (fee for Appeal Brief and extension of time) and any additional fees which may be required in connection with filing this document and any extension of time fee, or credit any overpayment, to Deposit Account No. 50-1071.

Respectfully submitted,

Date: April 8, 2003

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